

Applic. No.: 09/645,807

Amdt Dated April 28, 2005

Reply to Office action of March 10, 2005

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-14 and 21-22 remain in the application. Claim 1 has been amended. Claims 15-20 have been cancelled.

In item 3 on page 3 of the above-identified Office action, claim 1-14 and 21-22 have been rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More specifically, the Examiner has stated that the phrase "the contact holes having substantially same diameters" is not supported by the specification. This phrase has been deleted.

In item 5 on page 2 of the above-identified Office action, claim 1-14 and 21-22 have been rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

More specifically, the Examiner has stated that the phrase "preventing breaking through of the electrode configuration

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and formation of redeposition of the material of the first conductive layer by the second conductive layer" in claim 1 renders the claim indefinite.

The Examiner's rejection is not understood. The above-mentioned phrase clearly recites that the breaking through of the electrode configuration and the formation of redeposition of the material of the first conductive layer, which are caused by the overetching of the electrode configuration due to the different depths of the contact holes, are prevented by the second conductive layer. See page 19, lines 1-11 of the specification.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic and/or clarificatory reasons. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claims for any reason related to the statutory requirements for a patent.

In item 10 on pages 4-7 of the above-mentioned Office action, claims 1-5, 7-9, 12-14, and 21-22 have been rejected as being

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unpatentable over Schuele et al. (US Pat. No. 5,930,639) in view of Watabe (JP 5-315457) and Hwang (US Pat. No. 5,621,606) under 35 U.S.C. § 103(a).

In item 11 on pages 7-8 of the above-mentioned Office action, claim 6 has been rejected as being unpatentable over Schuele et al. in view of Watabe and Hwang and further in view of Chung (US Pat. No. 5,976,394) under 35 U.S.C. § 103(a).

In item 12 on page 8 of the above-mentioned Office action, claims 10-11 have been rejected as being unpatentable over Schuele et al. in view of Watabe and Hwang and further in view of Yang et al. (US Pat. No. 5,436,190) under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

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preventing breaking through of the electrode configuration and formation of redeposition of the material of the first conductive layer by the second conductive layer during overetching of the electrode configuration due to the different depths of the contact holes.

As discussed above, in the invention of the instant application the breaking through of the electrode configuration, which is caused during the overetching of the electrode configuration due to the different depths of the contact holes, is prevented by the second conductive layer, namely the titanium nitride layer (7).

As already discussed in the previous response, in Watabe the electrode 10 at the bottom of the contact hole 22 is prevented from being broken through by controlling the etching rate by changing the size (diameter) of the contact holes 20, 22. Nowhere does Watabe disclose or suggest preventing the breaking through of the electrode by applying a titanium nitride layer on the platinum layer during overetching of the electrode configuration due to the different depths of the contact holes.

Although Schuele et al. disclose a titanium nitride layer, it is not disclosed or suggested anywhere in Schuele et al. that the titanium nitride layer can prevent breaking through of the electrode during overetching of the electrode configuration

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due to the different depths of the contact holes because Schuele et al. do not disclose forming contact holes of different depths.

Other cited references do not make up for the deficiencies of Schuele et al. and Watabe.

The Examiner has stated in item 1 ("Response to Arguments") on page 2 of the Office action that the specific electrode configuration is already taught by the primary reference Schuele et al. and Watabe teaches forming two contact holes on the insulation layer on the electrode configuration, wherein the contact holes have different depths. The Examiner has further stated that Watabe teaches that the bottom of the contact hole 22 is prevented from being broken through by controlling the etching rate by changing the size of an opening due to the different depth of the contact holes.

It appears that the Examiner did not understand Applicants' arguments. The Examiner's above response is not relevant to Applicants' arguments because what Applicants have argued is that Watabe does not teach preventing the breaking through of the electrode by applying a titanium nitride layer on the platinum layer during overetching of the electrode configuration, as recited in claim 1 of the instant

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application. In contrast, in Watabe the electrode 10 at the bottom of the contact hole 22 is prevented from being broken through by controlling the etching rate by changing the size (diameter) of the contact holes 20, 22.

Clearly, none of the references show "preventing breaking through of the electrode configuration and formation of redeposition of the material of the first conductive layer by the second conductive layer," as recited in claim 1 of the instant application.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-14 and 21-22 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested as

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it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted, **Yonghong Chen**  
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For Applicants

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